THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 35

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GERARD GOSSELIN,
JEAN J.O. GRAVEL, and GUY DROUIN

Appeal No. 1997-3785
Application No. 08/527,591

ON BRIEF

Before ABRAMS, STAAB, and GONZALES, Administrative Patent Judges.

ABRAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the decision of the examiner finally rejecting claims 1-19, which at that point constituted all of the claims of record in the application. Subsequently,

an amendment after the final rejection was entered in which claims 14-19 were canceled and claims 1 and 3 were amended. The final rejection was maintained, however, and therefore claims 1-13 are before us on appeal.

The appellants' invention is directed to a method for treating waste gases. The claims on appeal have been reproduced in an appendix to the Brief.

THE REFERENCES

The references relied upon by the examiner to support the final rejection are:

Aiken et al. (Aiken)	4,277,453	Jul. 7, 1981
Swart et al. (Swart)	4,432,862	Feb. 21, 1984
Greco	5,129,332	Jul. 14, 1992
Cmejrek et al. (Cmejrek)(EP)	0 197 023	Oct. 8, 1986

THE REJECTION

Claims 1-13 stand rejected under 35 U.S. C. § 103 as being unpatentable over Greco in view of Cmejrek, Aiken and Swart.[1]

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted rejection and the conflicting viewpoints advanced by the examiner and the appellants, we make reference to the Examiner's Answer (Paper No. 31) and to the Appellants' Briefs (Papers No. 30 and 32).

OPINION

The test for obviousness is what the combined teachings of the prior art would have suggested to one of ordinary skill in the art. See, for example, ***In re Keller***, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In establishing a *prima facie* case of obviousness, it is incumbent upon the examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. See ***Ex parte Clapp***, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985).

[1]A rejection of claims 1-13 under 35 U.S.C. § 103 on the basis of Greco, Aiken, McKiel, Houston and Swart was withdrawn in the Answer.

To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from the appellant's disclosure. See, for example, ***Uniroyal, Inc. V. Rudkin-Wiley*** **Corp.**, 837 F.2d 1044, 1052, 5 USPQ2d 1434, 1052 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988).

The appellants' invention is directed to the treatment by incineration of air or gases containing toxic or odorous fumes, including vapors in the form of mist, which emanate from manufacturing processes. The invention comprises an improvement to a known system in which the gases are exposed to a succession of regenerators which communicate with a combustion chamber. According to the appellants, it is typical to utilize three regenerators which receive gases from a common gas inlet and discharge to a common combustion chamber, from which "clean" gas is expelled to the atmosphere. It is common practice to pass the gases successively through two of the three regenerators, while the third regenerator is purged of waste gases and contaminants. Purging is accomplished, in the prior art systems, by recirculating a

part of the “clean” gases through the regenerator to cause the undesirable compounds held therein to be forced out into the combustion chamber. Such a system, and the prior art method for operating it, are described in the appellants’ claim 1 in the preamble and paragraphs a) through d).

The appellants further explain that in order to properly purge the regenerators, the external surface of the packing material contained therein and the associated plenum and ducts must be cleared of any volatile organic material that has accumulated during the passage of the gases through the regenerator while it was on line. Some of these materials, however, have not effectively been removed by the recirculated stream of clean gases utilized in the prior art systems, which normally comprises no more than 10% of the total exhaust. An objective of the appellants’ invention is the more effective removal of liquid deposits and other residues from the regenerators and their associated elements. The basic means by which the appellants’ invention accomplishes this objective is increasing the temperature of the portion of the clean gases which are used to purge the regenerators. The invention

is manifested in claim 1, which first describes prior art system and then concludes with the following recitation:

> the improvement comprising:
>
> raising the temperature of said part of said clean gases used as a purging gas prior to entry of said purging gas into each of said first, second and third regenerators to be purged so as to increase volatilization and removal of said compounds remaining in said regenerator after the passage of waste gases.

It is the examiner's position that the claimed subject matter is rendered obvious by the combined teachings of the four applied references. As we understand the rejection of claim 1, the examiner believes the basic method is taught by Greco and it would have been obvious to one of ordinary skill in the art to raise the temperature of the portion of the clean gases used to purge the regenerators in view of the teachings of Cmejrek, and
to take one of the regenerators off-line to effect purging in view of the teachings of Swart. Aiken has additionally been cited against all of the claims, but its disclosure of utilizing a mist separation device is applicable only to dependent claim 13. Notwithstanding the examiner's referral to the teachings of Greco and Swart, the Jepson-type claim

presented by the appellants on its face acknowledges the presence in the prior art of all of the subject matter recited in claim 1 except for the final step. The dispositive issue in this case is, therefore, whether it would have been obvious to one of ordinary skill in the art to modify the prior art system (represented in the examiner's rejection by Greco) by adding the step of raising the temperature of the clean gases being used to purge the regenerators prior to their re-entry into the regenerators as a purging gas. The examiner's explanation regarding this issue is as follows (Answer, pages 5 and 6):

> . . . Cmejrek et al. sets forth a method for cleaning residue off the surface of a regenerative heat exchanger by passing a hot combustion gas over the contaminated heat exchanger at a temperature sufficient to remove the deposits off of the heat exchanger surface (please see the English abstract).
>
> It would have been obvious . . . to pass a hot combustion gas over the residue coated heat exchanger to volatilize off and remove the contaminants from the surface . . . as set forth in the improvement clause of the Jepson-type appealed claim 1 and taught in the English abstract of Cmejrek application into the process of the Greco reference because of the taught advantage of being able to avoid time consuming conventional wash methods for cleaning the surface of a heat exchanger (please see the English abstract of . . . Cmejrek et al.).

The examiner bases the above position on lines 8-10 of the English abstract of the Cmejrek reference, to wit: "Required heat is derived from combustion fumes, hot gas, hot air or a combination of these" (Answer, page 8). In our opinion, even giving this sentence its most charitable interpretation, it falls short of justifying the examiner's position that the addition of the last step of the appellants' claim to the Greco system would have been obvious, for it is a very broad statement that provides no specific suggestion to raise the temperature of the clean gases prior to recirculation to purge the regenerators. This conclusion is confirmed by the understanding of the Cmejrek system we obtained by considering the translation of the entire reference.[2]

Cmejrek is concerned with the problem of purging unwanted materials from a heat exchanger, and teaches doing so by the use of the gases exhausted from a boiler or the like and "cleaned" by a treatment device such as a catalytic converter (Figure 1). However, Cmejrek accomplishes this in a manner

[2]This document was supplied by the appellants and was the basis upon which many of their arguments were grounded. However, it apparently was not considered by the examiner.

which would not have led one of ordinary skill in the art toward the appellants' claimed invention. The appellants' claims require raising the temperature of the clean gases that exit the treatment device prior to their being used to purge. This is not the case in Cmejrek. While Cmejrek apparently appreciates that high temperature is desirable for purging, it does achieve this by raising the temperature of the gases prior to entering the device to be purged, but teaches maintaining the temperature of these gases during the purging process. That is, in purging the hot side of a heat exchanger, Cmejrek suspends the transfer of heat from the purging gas exhausting from a boiler to the cool incoming gas in the heat exchanger, so that no heat from the clean exhaust gases is lost and the purging capability of the gas is maximized. For example, in the embodiment of Figure 1, the incoming gas is diverted from the heat exchanger and heated by other means so long as purging is taking place (translation, pages 8-9). In his system, Cmejrek relies upon using the entire stream of clean gases to purge, rather than just a portion. Moreover, the gases are not re-circulated to purge an element that they have previously passed through, which is

the case in the appellants' invention. The remaining two applied references do not alter the principles of operation of the Cmejrek system.

It therefore is clear to us that one of ordinary skill in the art would not have been taught by Cmejrek to insure that the temperature of the gases exhausting from a boiler or the like was adequate to accomplish the desired level of purging by "raising the temperature" of the gases at all, much less doing so to a "part" of the gases "prior to entry" of the gases into the component that is to be purged, as is required by claim 1.

The mere fact that the prior art could be modified does not make such a modification obvious absent suggestion of the desirability of doing so. See, for example, ***In re* Gordon**, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). In the present case, we fail to perceive any teaching, suggestion or incentive in the applied references which would have led one of ordinary skill in the art to modify the Greco system in the manner proposed by the examiner. It appears to us that the only suggestion for doing so is found in the hindsight accorded one who first viewed the appellants' disclosure.

This, of course, is not a proper basis for a rejection under 35 U.S.C. § 103. See ***In re Fritch***, 972 F.2d 1260, 1264, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992).

The combined teachings of the four references thus fail to establish a *prima facie* case of obviousness with regard to the subject matter recited in independent claim 1, and we will not sustain the rejection of claim 1 or, it follows, of claims 2-13, which depend therefrom. In view of our decision, it is not necessary for us to consider the secondary evidence proffered by the appellants.

SUMMARY

The rejection is not sustained.

The decision of the examiner is reversed.

REVERSED

Neal E. Abrams Administrative Patent Judge	)	
Lawrence J. Staab Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES

)
)
John F. Gonzales)
Administrative Patent Judge)

Ronald E. Greigg
GREIGG & GREIGG P.L.L.C.
1423 Powhatan Street, Unit One
Alexandria, VA 22314